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**Finding Health in the Machine: The Founding of Osteopathy in the
Context of Late Nineteenth Century American Medical History**

by

**Matthew August Gilmartin,
B.A. (Stanford University) 1991**

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requirements for the degree of
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INTRODUCTION

Osteopathy is a science. . . . The average person can't tell you whether it is an earthquake, a cyclone, or a comet. Even the Governor of the great State of Missouri thinks it is a special "gift or secret." We know it is a science founded on truth – a science which any man of average intelligence, who will studiously apply himself, can comprehend. It is a science of the law which can control fever, flux, measles, or diphtheria.

Andrew Taylor Still, 1898¹

Historical accounts of the founding of osteopathy point out that the profession's founder, Andrew Taylor Still, articulated a therapeutic system that, in part, based its appeal to patients, students and practitioners on the fact that it was scientific. In his influential book on the history of osteopathy, Norman Gevitz quotes an 1895 article in the *St. Louis Democrat* that described the large number of people seeking treatment in Kirksville, Missouri, where Still practiced and taught:

To and fro there surges a throng of ailing humanity sincere in purpose as the Eastern devotee who kneels at the tomb of Mohammed. But the results accomplished are not visionary or fanciful. They are real and practical. Marvelous even unto the miraculous are some of the cures and yet they are all treated in a natural and scientific manner.²

But while noting the "scientific theory upon which [Still's] cures were based,"³ historians of osteopathy mostly fail to clarify the specific way that Still positioned osteopathy as "scientific." This omission is especially problematic because the definition of science in medicine was a highly contentious issue in the latter half of the nineteenth century, when Still developed and defined the identity of his new profession. If osteopathy was scientific, the meaning of "science" in this assertion cannot be assumed.

From the founding of the American School of Osteopathy in 1892, which began the development and diffusion of the osteopathic profession in earnest, until 1910, Still

wrote copiously on osteopathy, defining the profession, its theory of disease and therapy and its role in society. In order to understand how Still positioned osteopathy as “scientific,” it is necessary to understand how his theories of disease and therapy relate to the complex landscape of orthodox medicine at the end of the nineteenth century, with its contradictory claims to “science” in medicine. This context has not been examined in detail in the historical literature on osteopathy.

Starting from the 1850s until the early part of the twentieth century, there was profound turmoil in the therapeutic theory, epistemology and practice of physicians working in the United States. Heroic medicine, which had ancient roots but which dominated American medical practice throughout most of the nineteenth century, was characterized by an aggressive response to disease using extreme measures such as bloodletting, administering large doses of calomel (a mercury containing compound) and the liberal use of addictive drugs such as opium. By the 1890s, the critique of heroic medicine that had arisen in the antebellum period out of the “Paris school” of skeptical empiricism was widely known in the United States. German experimental physiology was also a widely felt force of change in the last decade of the nineteenth century; starting in the last quarter of the nineteenth century, it had sought to reinvigorate the orthodox profession with a rationalist therapeutic system based on knowledge gained in the laboratory. The related fields of bacteriology and hygiene were also transforming the understanding of disease etiology and prevention. And, more generally, American society had begun to embrace “expert knowledge,” grounded in science and technological sophistication, as the legitimate basis for authority in all the professions. Still’s rejection of heroic medicine has been commented upon in virtually every account of the founding osteopathy; his relation to the other facets of this

complex medical geography has received virtually no attention. It is within this larger context that the claims of the charter of the first school of osteopathy to “improve our present system of surgery, obstetrics, and treatment of diseases generally, and place the same on a more rational and scientific basis” can best be understood.⁴

Still did not engage in a direct dialogue with the leading proponents of the various factions in orthodox medicine. He was an MD with the typically informal training of the rural practitioner in Kansas and Missouri. He was far from the urban centers where agitation for medical changes based on European schools of thought were transforming American medicine. Yet embedded in his writings are responses to the main medical paradigms in the 1890s: heroic medicine, Paris empirical medicine, and German experimental physiology. And his writings reflect the broader expectations that were molding both the orthodox and osteopathic professions.

This paper’s analysis of Still’s writing is divided into four sections. First, I provide a brief introduction to Still’s life and the influences from which he created osteopathy. This section reflects the excellent histories that have been written on these topics. In the second section, I clarify the way Still articulated a distinctly osteopathic conception of disease. Especially important are his use of the basic sciences, especially anatomy and physiology, to articulate his theories of disease and his claim to having determined an antecedent cause for disease. After I describe competing conceptions of disease in heroic medicine, Paris medicine, and German experimental physiology, I present Still’s critiques of these definitions. In the third section, I examine Still’s conception of osteopathic therapy as an application of the basic sciences, especially anatomy. The intense controversies over heroic therapeutics which arose from the Paris school, and the way German physiologic medicine responded to these controversies in seeking to

rejuvenate the orthodox profession, provide a context for understanding key elements of Still's "science": the universal and standardized aspects of his diagnosis and therapy, as well as the rationalist epistemology which underlies them. In the fourth and final section, I demonstrate that Still sought to legitimize the osteopathic profession in society through his use of the metaphor of the body as machine and the osteopath as mechanic. Throughout the paper, I develop the theme of how Still depicts osteopathy as a scientific therapeutic system.

My study of the way that Still sought to define, organize and establish the legitimacy of the osteopathic profession is carried out by close analysis of his writing. There are a number of primary sources for Still's language: he began recording his thoughts on osteopathic principles, philosophy and therapeutics in 1892 with the publication of *Philosophy and Mechanical Principles of Osteopathy*. He further elucidated them in three other books: his *Autobiography*, published in 1897, *The Philosophy of Osteopathy* published in 1899, and *Osteopathy: Research and Practice* published in 1910. In addition, I analyze his writings in the *Journal of Osteopathy*, which Still founded in 1894.

As an analysis of Still's writing, this work is similar in approach to two other published works on Still: Gary Albrecht and Judith Levy's "The Professionalization of Osteopathy: Adaptation in the Medical Marketplace,"⁵ and Katherine Miller's "The Evolution of Professional Identity: The Case of Osteopathic Medicine."⁶ While both of these works consider the profession's identity from its founding up to the present, their analysis of the early years of osteopathy is based mostly, in the case of Albrecht and Levy, or exclusively, in the case of Miller, on the words of Still. As such, their work supplies important perspectives at various points in my analysis of Still. Yet these two

works shed little light on a central theme of this paper: understanding Still's explanation of how osteopathy is scientific and how this definition of science relates to other definitions of medical science at the end of the nineteenth century. Albrecht and Levy do write about another important aspect of my thesis: the professionalization of osteopathy in terms of the professions generally in America at the end of the nineteenth century. My work extends their analysis both by focusing more specifically on Still's attempts to establish osteopathy as "scientific" and by expanding their conception of Still's audience to include an endemic valorization of science and technology in the Midwest during the 1890s.

Since I base my work on Still's rhetorical strategies, his intended audience is an important consideration. At the beginning of each of his works, Still makes clear for whom he was writing. Three of his books, *Philosophy and Mechanical Principles of Osteopathy*, *Philosophy of Osteopathy*, and *Osteopathy: Research and Practice* are specifically addressed to students of osteopathy. Still's *Autobiography*, addressed to "Osteopaths and others interested,"⁷ is intended for a broader audience, and a number of chapters are transcripts of speeches that Still made to explain osteopathy to the general public. Finally, his writings in *The Journal of Osteopathy* were intended for a wide audience. Founded in 1894, by 1896 it had a circulation of more than eighteen thousand. This journal was mailed to the families and friends of patients who had been treated in Kirksville, where Still worked and founded his first school. In addition, it was sent to newspapers throughout the Midwest.⁸

Most historians comment on how Still's ideas were tailored to a Mid-western audience. In the last chapter of this paper I examine in more detail the Midwestern milieu of Still's audience. However, this paper does not explore how Still's writings

were actually received by his patients and the public; such an analysis, essential to understanding the impact of Still's work, awaits further research.

Gevitz stresses that osteopathy in the early 1890s gained notoriety throughout the Midwest and beyond for its efficacy, making Kirksville an important destination for those seeking treatment. Gevitz also emphasizes that students of osteopathy often benefited first from osteopathy as patients.⁹ What has been missing in historical analyses of Still's arguments is an understanding that this progression, from public to patient to student of osteopathy to osteopath, creates a complexity in his writing because of a blurring in audience: public, patient, student and osteopath. Thus, he might in a single chapter move from a criticism of contemporary diagnosis and surgical therapy for appendicitis to simple metaphorical explanations of function of the heart in terms of the roots of a tree.¹⁰ This rich complexity of "voices" in Still's writing perhaps leads to the complaints by many historians that Still's writing is confusing and difficult. It also may explain why analyses of his writings have been few and limited in scope. While this paper is in no way an exhaustive analysis of Still's words, I hope to show the value of delving into the richness of Still's writing.

In this paper, I explore the way Still articulated osteopathy as scientific and the medical and social milieu in which such an articulation was meaningful. As such, I seek to clarify how Still, in framing a nascent identity for his profession at the end of the nineteenth and early part of the twentieth centuries, tried to establish its legitimacy alongside other professions. In an introductory section, I discuss what historians have determined to be his influences in developing osteopathy. But in examining the way that osteopathy, as expressed by Still, was "scientific," I do not make an argument about the development of these ideas. Rather I seek to clarify how Still advances claims in his

writings and how these claims are meaningful in terms of both competing claims to “science” in the orthodox profession and wider social expectations about professional legitimacy in general. If osteopathy and orthodox medicine shared common cultural influences and thus reflect similar orientations, the manifestations of these influences are profoundly different. Part of the significance of this study lies in the fact that osteopathy can serve as a comparison for the use of science and technology for the legitimization of the health professions in the last decade of the nineteenth century.

Recent attention to the changing meaning of science in medical history has led to the understanding that at virtually any point in medical history practitioners have turned to “science” to legitimize their practice. The abundance of studies on the meaning of science in medicine at the end of the nineteenth century, however, “reflects the perception that it was during these decades that the structure, values, and shortcomings of the health care system we live with today took rough shape.”¹¹ While such an analysis is beyond the scope of this essay, it is feasible that the differences that osteopathy at its founding had with orthodox medicine, some of which are examined in this paper, adumbrate modern differences between the professions.

CHAPTER ONE

BACKGROUND AND INFLUENCES

Historical writings on the founding of osteopathy invariably refer to Andrew Taylor Still's account of his break with orthodox medicine in his *Autobiography*. In 1864, during one of the many epidemics that swept through the Kansas pioneer communities where he lived and practiced, Still, an M.D., former free-state activist and Kansas state legislator and Civil War veteran, experienced a crisis that he considered a turning point in his career. Three of Still's children had become sick during an epidemic of spinal meningitis and Still called upon his colleagues to care for them. In portraying these physicians, Still compares their efforts to those of ministers who came to console and provide for the spiritual needs of the sick family members:

The doctors came and were faithful in their attendance. Day and night they nursed and cared for my sick, and administered their most trustworthy remedies, but all to no purpose. The loved ones sank lower and lower. The minister came and consoled us. Surely with the men of God to invoke divine aid, and men skilled in scientific research, my loved ones would be saved. Any one might hope that between prayers and pills, the angel of death would be driven from our door. But he is a stubborn enemy, and when he has set his seal on a victim, prayers and pills will not avail. I had great faith in the honesty of my preacher and doctors then, and I have not lost that faith. God knows I believe they did what they thought was for the best. They never neglected their patients and they dosed, and added to and changed doses, hoping to hit upon that which would defeat the enemy; but it was of no avail.¹²

While affirming his confidence in the sincerity of the doctors' intent, Still emphasizes the inefficacy of their therapies by creating an ironic tension between preachers praying and "men skilled in scientific research" with their hit-or-miss approach to therapy in the "hope" of providing a cure. Invoking the futility of the best efforts of both preacher and physician, Still conveys his disaffection with existing therapy.

For Still, this experience represented the beginning of his fundamental questioning of medical therapeutics. He writes,

It was when I stood gazing upon three members of my family, - two of my own children and one an adopted child, - all dead from the disease, spinal meningitis, that I propounded to myself the serious questions "In sickness has God left man in a world of guessing? Guess what is the matter? What to give, and guess the result?"¹³

In decrying the inefficacy and uncertainty of existing therapies, Still was echoing widespread discontent with heroic therapeutics. In addition, he was affirming the possibility of more certain and efficacious therapies that would not be based on "guessing."

For the first two thirds of the nineteenth century, medical therapeutics in America was dominated by what has been termed "heroic medicine." Heroic medicine was characterized by an aggressive response to disease, using remedies that were present in Hippocrates's therapeutic armamentarium.¹⁴ The goal of these remedies was to exert a powerful effect on the body physiology. These remedies included massive bloodletting, and the administering of purgatives, laxatives and emetics.¹⁵ Among the remedies used in the second half of the century were mercury, arsenic, strychnine, antimony, opium, ipecac and quinine, often administered in large, or "heroic" doses.¹⁶

Most historical accounts of the founding of osteopathy portray it in terms of a reaction to the unpopularity and inefficacy of heroic therapeutics, casting osteopathy as a late nineteenth century "sectarian" movement. While "sectarianism" is not a rigorously defined historical term, it is generally used to describe the healing systems and the movements associated with them, which challenged heroic medical therapeutics in the early and mid-nineteenth century. These movements included homeopathy, Thomsonianism, eclecticism and hydropathy.¹⁷ Sectarianism rose to prominence during

the Jacksonian era, which began with the election of Andrew Jackson in 1829; during this era the dominant political drive was an attack on special privilege and monopoly.¹⁸ Advocates of the various sectarian movements assailed the idea that medical practice required specialized or privileged access to knowledge. Instead, “common experience, commanded by the ordinary man and woman, was a sufficient guide to health and healing and, moreover, the only source of truly authentic medical knowledge.”¹⁹ Practitioners from these movements were important in organizing for the repeal of licensing laws in the 1840s. This successful effort led to the markedly open medical marketplace of the nineteenth century.²⁰

Sectarian movements also gave voice to popular dissatisfaction with heroic medicine, the orthodox therapeutic modality of the time. The popularity of these movements both reflected and expanded popular distrust of these extreme therapies and served as an important force in modifying orthodox medical therapeutics.²¹ Yet while the use of bloodletting had declined by the 1860s, other extreme therapies had replaced them. These consisted largely of opium and alcohol, which were given in large and frequent doses.²² The orthodox profession was put in the paradoxical position of both reducing the use of certain heroic remedies, such as bloodletting, and advancing new forms of the heroic approach in replacement. Warner, discussing the effect of this pressure on orthodox physicians, states,

During the second quarter of the century the growing power of organized groups such as homeopathy was the primary force propelling the creation of medical orthodoxy [that] took therapeutics as its most distinctive emblem, a marker of the boundaries by which regular physicians sought to demarcate and maintain their separateness.²³

The loss of licensing laws, along with the popularity of the sectarian movements, caused the orthodox identity to coalesce around heroic therapeutics. Since there were

no legal regulations that provided a basis for professional distinctions, orthodox as well as the sectarian practitioners looked to therapeutics for the key to distinctions in identity.

According to historians, this was the environment in which Still developed osteopathy. In an article comparing the development of osteopathy and chiropractic, for example, Baer writes,

osteopathy and chiropractic were merely two of a series of medical revitalization movements that emerged in the 19th century in response to the limited results and the excesses of allopathic medicine, such as blood-letting, blistering, strong purgatives, and dangerous and addictive drugs.²⁴

Gevitz, in speculating why Still met with such success in founding his new profession, writes of the “social environment . . . open to alternative medical innovations. Still could practice his unorthodox methods because licensure laws were weak – a consequence of the public’s lack of confidence in the abilities of the medical profession and of their distrust of ‘class legislation’ of any type.”²⁵

After the “crises of faith” in 1864, catalyzed by the death of his children from meningitis, Still continued to use orthodox therapies for at least ten years, although he also began to experiment with a number of unorthodox practices. A few would serve as key influences on his therapeutic system.²⁶ What is perhaps most striking about Still’s break with orthodox medicine is that ultimately he unconditionally rejected drug therapy. Many physicians at the time believed that heroic excesses were to be avoided, and Still’s shared sense of the failure of these therapies provoked his questioning of drugging. But rather than a reform-minded call for moderation, Still called for an absolute abandonment of drugs as a therapeutic modality. Gevitz and Trowbridge have identified Still’s Methodist background as an important influence in his rejection of

drugs, and, indeed, he at times expressed his rejection in moralistic terms. His experience in the Civil War, where he witnessed the addiction created by the excessive use of alcohol and opium, was also important in his rejection of drugs.²⁷

Yet Still's rejection of orthodox therapies was more than a moral stance or a rejection of a particular therapy. Still asserted that the central question regarding therapeutics was not whether a particular drug therapy was effective, but rather whether drug therapy was itself scientific.²⁸ He writes,

First, I tried the ability of drugs, as taught and administered by Allopathy. Then noticed closely the effect from the schools of Eclecticism and Homeopathy; I concluded all was a conglomerate mess of conjectures and experiments on the ignorant sick man, from the crown to the heel.²⁹

The way that Still strove to articulate osteopathy as a scientific therapy, and existing therapies as not scientific, is the focus of this paper; before turning to Still's understanding of science and the role of science in society and medical practice in late nineteenth century, it is important to understand the influences that historians have identified as important in the formation of osteopathic approach to disease and therapy.

Still encountered a number of drugless health movements that were popular in the middle of the nineteenth century. Among these was a movement led by Sylvester Graham (1794-1851), who proposed that proper nutrition, exercise and lifestyle would make drugs and physicians unnecessary. Another is hydropathy, imported from Germany in the 1840s, which proposed hot and cold baths to cure chronic illnesses such as rheumatism and gout. A utopian colony that combined the ideas of Graham with therapies from hydropathy existed near where, in Still's youth, his father practiced medicine. The failure of this colony and the fact that his father was called upon to

administer to patients who failed to benefit from its therapies makes it unlikely that Still was impressed by these approaches.³⁰

Still was clearly influenced by magnetic healing, and for at least a year during the 1880s he advertised himself as a “Magnetic Healer.”³¹ Magnetic healing had its origin in the work of the Australian doctor Franz Mesmer (1734-1815) who asserted that excess or deficiency of a magnetic fluid that flowed through the body was a cause of disease. In the mid-nineteenth century, American practitioners of magnetic healing added to Mesmer’s ideas the contemporary work of Magendie and Bell on the spine to develop a therapy that consisted of vigorous rubbing along the spine in order to treat various ailments of the abdominal organs. Still was influenced by magnetic healing in important ways. First, he adopted the idea that health required the unhindered flow of fluid throughout the body as whole. But rather than a vital magnetic force Still understood that blood, lymphatic fluid, and the routes of nerves were what required free communication in health. Second, Still’s use of the metaphor of the body as machine, which will be analyzed more thoroughly in the final chapter of this paper, appears to be adapted from the writings of magnetic healers. Finally, as a number of historians have argued, Still’s emphasis on the spine in the development of osteopathic therapy also owed much to magnetic healers.³²

Carol Trowbridge, in her biography of Still, makes an extended case for the influence of the ideas of the English philosopher Herbert Spencer on Still. Between 1870 and 1890, the period when Still was developing osteopathy, Spencer was widely read in America through publications of his books and their serialization in magazines such as *Popular Science Monthly*. Spencer was influential in propagating evolutionary ideas. Still was most influenced by Spencer’s evolutionary ideas on the body, and from

Spencer he adopted the idea that the body had evolved a perfection expressed both in the interrelatedness of body systems and in the integral relationship between structure and function.³³

Beginning in the late 1870s, Still started to experiment with the techniques of bonesetting; between 1883 and 1890 he traveled from town to town advertising himself as the “Lightning Bonesetter.”³⁴ He made a striking image during this time. He traveled in a dark suit, pants tucked into his boots, often with a bag of bones slung over his back which, during improvised public demonstrations, he would assemble before treating members of the gathered crowd.³⁵ Still’s relationship to bonesetting is particularly fascinating because, besides the obvious fact that his therapeutic technique bore an apparent resemblance to this folk form of medicine, historians have been at pains to find a specific source for this influence.

Despite the fact that bonesetting is understood to have been virtually ubiquitous in rural and working class urban communities, the practice of bonesetting itself is shrouded in mystery and has gained little attention from historians. In his discussion of the history of bonesetting in Britain, Cooter concludes that bonesetting’s obscurity in the historical literature is due to the fact that until the late nineteenth century, it never challenged orthodox medicine.³⁶ Bonesetting was an informal method of treatment, a skill passed down often within families and assumed to be an innate talent rather than one amenable to teaching. Its patients often had limited access to medical care – although at times it did attract the attention of the wealthy in search of treatment. Forming a kind of “primitive specialty,” bonesetters treated fractures, sprains, strains, ankylosed joints and other musculoskeletal ailments for which orthodox physicians had few therapies. When bonesetting did attract attention, as it did from James Paget in the

1860s, it was only because orthodox doctors sought to appropriate its techniques, for example in the founding of orthopedics.³⁷

The history of bonesetting in America is equally obscure. The best known and documented were the Sweet family of bonesetters who practicing in Rhode Island and the surrounding states from the early nineteenth century. Like many bonesetters, they were artisans and took little or no money for treatments.³⁸ Like their British counterparts, the Sweets served the working poor and, in fact, often kept the poor working. William Sweet recounts his treatment of victims of industrial accidents:

Michael Flaherty was caught by a belt in the factory at Wakefield. His leg was turned clean around and splattered from the knee, and the bone left naked down to the ankle. I put the pieces all in their places and worked on him with my liniments and washed on and off about nine or ten months, when he went back to work, and is now well...³⁹

What is striking about the Sweets is the way their practice seemed to complement that of the orthodox practitioners in the area. A history of orthopedics in Connecticut states that the Sweet family was instrumental in that profession's founding in the state, and that local doctors were indebted to the Sweets because the family kept silent about the mishandling of cases by general practitioners in the area.⁴⁰

While the extent to which bonesetting influenced Still is unclear, his identification as a "Lightning Bonesetter" during the decade in which his success and fame grew precipitously points towards its decisive role both in Still's conception of disease and therapeutic technique and in his patient's perceptions of these. But if he was influenced by bonesetting, Still fundamentally transformed it as well. Many of Still's early patients and associates believed that Still had a personal "gift" that could not be taught. This claim, so reminiscent of those made about bonesetters, Still countered with the founding of the American School of Osteopathy in order to teach his "science."⁴¹

He also did not limit his treatments to musculoskeletal disorders and so sought to directly challenge or even replace orthodox therapeutics in the scope of his treatments.

Historians have cast Still's challenge to orthodox therapies in terms of the sectarian movements earlier in the nineteenth century, although such an association is loosely based on a shared cultural milieu rather than explicit comparisons between osteopathy and homeopathy, Thomsonianism, and hydropathy.⁴² There are reasons for locating Still among the sectarian practices of the nineteenth century. As has been widely noted, his writings are filled with attacks on heroic therapies and thus echo similar attacks by the sectarian movements.⁴³ Still created a medical movement in part based on a therapeutic distinction: the rejection of drugs.⁴⁴ Even the name "osteopathy" seems to locate the profession as a latecomer to the list of sectarian "pathies" which came to prominence during the Jacksonian era.

While such an analysis is helpful for clarifying the context of the development of osteopathy, this identification of Still with sectarian practices, the open medical market place, and Jacksonian values oversimplifies Still's historical context. Still broke with medicine, according to his own accounts, in 1874, founded the first school of osteopathy in 1892 and completed all of his writings on osteopathy between 1892 and 1910. His founding of osteopathy and attempts to articulate the identity of the profession occurred at the end of the Gilded Age (1870-1900) and the beginning of the Progressive Era (1900-1914). While the earlier sectarian movements may have helped to create, and then benefited from, the lack of licensing laws in American in the nineteenth century, osteopathy, with its growth primarily in the last decade of the nineteenth century and the first decade of the twentieth, arrived at the close of any such free market of medical practices.

While Still developed osteopathy amidst a social milieu permissive of alternative practices, social expectations about the professions had fundamentally changed by the time Still began to formally organize the profession in the 1890s. Still's declaration of a new "scientific" therapeutic to address the health needs of the nation was a response not just to heroic therapeutics, but also the forces of reform in the orthodox profession (namely, Paris medicine and German physiologic medicine) and to the larger social forces which expected that scientific principles and technological innovation should serve as the basis for work and the professions. This aspect of Still's writing has been largely ignored. Setting his work in the context of the last decade of the century, rather than the preceding ones, provides an essential backdrop for deciphering the ways in which Still posited osteopathy as "scientific."

CHAPTER TWO

THEORY OF DISEASE

The idea that Still had a “monistic emphasis on one body system”⁴⁵ permeates almost all historical writing about the founding of the profession. Gevitz, for example, refers to Still’s “theory that most diseases were directly or indirectly caused by vertebral displacements and that elimination of the latter through spinal manipulation would remove symptoms of pathology elsewhere in the body.”⁴⁶ Monistic theories of disease were characteristic of early nineteenth century rationalist theories of disease, such as Rush’s belief that arterial tension was the cause of all disease. Such simplification of the diversity of disease into a single pathological process was a remnant of the Enlightenment hope that a universal cause would be found to explain all disease.⁴⁷ Monistic theories were the bugaboo for late nineteenth century proponents of rationalism, such as the German physiological school of medicine. According to critics, the therapeutic systems that developed from such theories lead to rote and extreme practices such as those advanced by Rush.⁴⁸ By accusing Still of mono-causality, historians place Still in this tradition. Following Gevitz, in most accounts Still is portrayed as proposing that disease arises from the effect of displaced vertebrae on the spinal nerves.⁴⁹ This focus on the spine misapprehends Still’s more general assertion that disease was a result of alteration in body structure and the resulting alteration in function, and so underestimates the appeal of his ideas in an important way.

While Still’s writing is filled with hyperbole misleading to the reader looking for a monistic theory of disease, it is also marked by an inclusiveness that proclaims the fundamental importance of changes to the vasculature, nervous system, lymphatics,

fascia, cerebro-spinal fluid and musculoskeletal system in causing disease. Indeed, Still emphasized the importance of the normal structure and function of all elements of the body. Perhaps the most extreme example is his chapter in *Philosophy of Osteopathy* called "Ear Wax and Its Uses."⁵⁰ While Still was capable of wicked humor in his writing, this chapter seems only partly in jest; rather it is a part of his attempt to prove that everything in the body is essential, and that no single component is the ultimate cause of all disease. In *Philosophy of Osteopathy*, he characteristically writes, "Still one part is just as great as any other in its place. No part can be dispensed with."⁵¹

In developing an osteopathic conception of disease, Still emphasized the importance of the free flow of blood, lymphatic fluid and nerve conduction in health:

It is assumed that so long as every organ receives its normal amount of blood, lymph, nerve force, or other vital fluid, and so long as it is properly drained of the waste products of metabolism, health must flow as a logical necessity .
..⁵²

From this conception of health, he asserted that disease arose from alterations in the arterial supply, venous drainage, or innervation:

. . . whenever an organ fails in the performance of its function, that fact is prima facie evidence of some obstruction to the incoming or outgoing forces. In the case of an organ whose arterial channels are obstructed, that organ must of necessity suffer from the effects of a local anemia; if an obstruction to its venous drainage be present, the ill effects of a passive congestion are inevitable; if its channels for the propagation of nerve impulses are impinged upon, disturbance of the power of the organ must manifest itself.⁵³

From this emphasis on the necessity of the correct flow of blood, lymph and nerve conduction, Still developed his concept of disease as an obstruction of these elements by structural components of the body. If Still had a unitary theory of disease it was the general principle that physiological discord arose from altered structure. His writings are marked by attempts to relate the structure of the body to all body physiology:

Disease is looked upon as a condition of an organ or of the organism in which function or activity cannot properly obtain because of some interference with one or more of these various pathways. The structures which produce the obstruction may be any of the tissues of body, but are found to be principally luxated bones, contracted muscles and strained or overgrown ligamentous or connective tissue material.⁵⁴

From this theory, Still asserted that osteopathy was founded upon an antecedent cause of disease; when pathology was discovered, it was the osteopath's function to trace the disorder back to the structural alteration which caused it:

The technical training of the osteopath skills him to detect mechanical faults in all parts of the body. He recognizes disease by the symptoms manifested by it, but interprets these symptoms by tracing them to their real causes in the mechanical disturbances which produce them.

Here lies one radical difference between osteopathy and medicine. The diagnosis of the disease does not stop with naming the symptoms of a certain disease, it goes further to diagnose the actual physical disturbances causing the disease.⁵⁵

The appeal of osteopathy was no doubt based on its simplicity, but that simplicity was not that disease arose from a particular type of lesion, such as the obstruction of nerves at the spine. Rather it was the simple proposition that alteration in the body structure led to altered physiologic function.

Still asserted his theory of disease at a time when there was considerable disagreement about the nature of disease. Beginning in the late eighteen century, orthodox medicine in America came under the influence of the rationalist systems and heroic therapeutics of doctors such as John Brown (1735-88) and Benjamin Rush (1746-1813). Brown asserted that all disease arose from alterations in the individual's ability to react to external stimuli. An overreaction lead to *sthenic* diseases which required depletive therapies such as bloodletting and dosing with the purgative calomel (mercurous chloride); an inadequate reaction lead to *asthenic* diseases which required

stimulating therapies such as alcohol and opium. Rush, a signer of the Declaration of Independence and the preeminent doctor in the United States in the eighteenth century, had a simpler unitary theory of disease: he taught that all disease arose from “tension in the arteries” and advocated copious bloodletting for virtually all diseases, combined with calomel to further reduce the “tension.”⁵⁶

Although Brown, Rush and other physicians disagreed about what body system was most involved, they shared a fundamental assumption about disease: it was the result of an “unnatural” state. This state and its healthy counterpart (the “natural” state) were unique to a particular patient, and could be understood in terms of the balance of the body with its environment. While there were various therapeutic manifestations, this approach had a common theoretical view grounded in the Galenic medicine of the distant past. Rosenberg explains,

Central to the logic of this social subsystem was a deeply assumed metaphor – a particular way of looking at the body and of explaining both health and disease. The body was seen, metaphorically, as a system of dynamic interactions with its environment. Health or disease resulted from a cumulative interaction between constitutional endowment and environmental circumstance. One could not well live without food and air and water; one had to live in a particular climate, subject one’s body to a particular style of life and work. Each of these factors implied a necessary and continuing physiological adjustment . . . equilibrium was synonymous with health, disequilibrium with illness.”⁵⁷

Etiology was understood to be non-specific and seen to arise out of the particular way a patient lived.⁵⁸ What was “natural” for a patient was linked to what Warner terms the “principle of specificity.” This principle held that “individuating factors as race, age, gender, diet, habit, occupation, climate and season modified the character of disease and the operation of drugs.”⁵⁹ Thus, what was “natural” was defined for an individual, not a

population, and even changed for the individual over time due to variation in season and both physical and social environment.⁶⁰

While general measures of body functioning such as heart rate and the presence or absence of a fever were considered, diagnosis was almost entirely based upon the patient's report of their symptoms and whether these were "natural" or "unnatural" for that particular patient.⁶¹ Nevertheless, physicians such as Brown and Rush asserted that they were treating the underlying cause of disease (for example, tension in the arteries).⁶²

Starting as early as 1815, young American physicians traveling to France to augment their medical education encountered a French hospital-based medicine that was developing a new understanding of science in medicine. This French movement was challenging the rationalist theories of disease upon which heroic remedies were based by bringing empirical rigor to the clinic. Exploiting the large number of patients at the public hospitals in Paris, physicians such as J.N. Corvisart, Pierre Louis and Rene Laennec, collectively identified as the "Paris school," made a number of decisive changes in medicine. In their development of an empirical approach to diagnosis, they changed the focus of diagnosis from patient report to the use of direct perception of the patient's physical state through inspection, palpation, percussion and (after the invention of the stethoscope by Laennec) auscultation.⁶³ The etiology of disease was understood to be hidden from the physicians, but not the specific localization of physical manifestations of disease.⁶⁴ The Paris school established and further refined their ability to localize lesions in disease by confirming their highly developed clinical observations and diagnoses with findings at autopsy, a process termed the "anatomico-pathological" method.⁶⁵ In their skepticism of heroic therapies, they placed greater

emphasis on determining the natural history of a disease through observation of the course of disease.

As part of the changes brought about by American physicians returning from Paris, the way physicians viewed disease began to fundamentally change, most notably after the 1850s. The terms used to describe aspects of a patient's condition changed from "natural" and "unnatural" to "normal" and "abnormal." This change in terminology implied a number of fundamental conceptual changes in the understanding of health and disease. Warner writes that physicians "came to think of disorders less as systemic imbalances in the body's natural harmony, and more as complexes of discrete signs and symptoms that could be analyzed, separated and measured in isolation."⁶⁶ The concept of "normal" became central to physicians as they focused increasingly on identifiable changes in body anatomy and physiology as markers of disease, rather than just relying on symptoms. Disease, rather than being understood as a unique, if unhealthy, state for the individual, became understandable in terms of universalized norms. Disease was understood in terms of discrete disease states, rather than a general unbalance in the body system.⁶⁷

Still shared in the views of the advocates of Paris medicine and German physiological medicine that a focus on symptoms was an inadequate approach to diagnosing disease. He writes

No attention or very little, if any, has ever been given to the parts of the body in a search for physical changes that have caused unnatural conditions in functions. [M.D.s] have been drilled in the faith that symptoms, well known, constitute a sufficient wisdom with which to open the fight . . . these symptoms are only the effects and not the cause of disease.⁶⁸

Still considered that the identification of structural alterations in the body, correlated with physiological changes and symptoms, was a fundamental improvement over focus

on symptoms by physicians practicing medicine in the earlier part of the century. But he also considered the localization of disease in organs a focus on effects:

the osteopathic diagnostician is not content with a diagnosis of the location and condition of the organ, which he recognizes as important enough – but by methods peculiar to his system attempts to locate the disordered structural condition which is at fault in the production of the perverted function.⁶⁹

Thus, Still believed that even the localization of disease in specific organs was limited, and that the osteopathic focus on structural alterations that were affecting the arterial supply, venous drainage and nervous supply of an organ, creating the conditions for disease.

The concepts of the “normal” and “abnormal” are fundamental to Still’s theory of disease and, as will be seen in the next section, to his conception of osteopathic therapy. Still asserted that essential to the education of the osteopath was a strict familiarity with the normal body structure and function:

When you know the difference between the normal and the abnormal structure you have learned the all-absorbing first question, that you must take your abnormal case back to the normal . . . Never leave your case until you have obtained such results. Thus it is far better to familiarize your eye and your hand with the normal before you can approach the abnormal intelligently. We want first on your shoulders a normal head, with normal principles, then we can bring before your eyes an abnormal neck, an abnormal arm, spine, limbs, or breast and you can reason by comparison, because you have the normal as a foundation on which to build your comparison of the abnormal.⁷⁰

Still’s emphasis on the diagnosis of disease based on palpation, and his assessment of structural changes in terms of the universalized concept of “normal” reflects his attention to important changes in the medicine occurring in late nineteenth century American medical thought. Rosenberg points out that earlier in the nineteenth century, defenders of heroic medicine as well as its most sectarian critics shared a fundamental view of the body in terms of “equilibrium.”⁷¹ Similarly, while Still attacked orthodox

therapies, he shared with many orthodox physicians an understanding of disease based on universal “norms.”

In the last third of the nineteenth century, a new scientific paradigm arose which was to fundamentally alter American medicine. Just as earlier in the century elite physicians from America brought back from Paris an empirical view of medical science to reform practice at home, young physicians traveled to Germany to learn and bring back a new model for medical identity and practice. However, rather than viewing the clinic as the source of scientific knowledge about the patient, these American students of German experimental physiology believed that the “pursuit of scientific truth in the laboratory . . . was the most promising direction for American medicine.”⁷² In Germany, scientists and physicians sought to understand disease by establishing norms for physiological function in health and disease and by experimentation on animals. Physiological abnormalities were also investigated in the laboratory and were considered the root of disease.⁷³ In some ways, this was an extension of the focus on the “normal” and “abnormal” conception of body function developed earlier in the century in France:

The Paris school’s emphasis on the anatomical localization of diseases introduced some measure of such analysis, but the conceptual shift in the third quarter of the century went much further. The hallmark of the new way of thinking about the goals of treatment was the reduction of signs of bodily order and disorder to objectively measured, quantified norms.⁷⁴

They sought the standardization of diagnosis by defining norms in the laboratory. Also, the development of bacteriological technique, initiated by Robert Koch in the 1870s, had led to the identification of an ever-expanding number of etiologic agents in the cause of disease and was closely associated with change of authority from empirical knowledge at the bedside to that gleaned from the laboratory.⁷⁵

Germany had other influences on the understanding of disease in America.

American proponents of German physiologic medicine brought “instruments of precision” back from Germany in order to make diagnosis more exact. It was during this period that the ophthalmoscope, laryngoscope and otoscope were introduced into clinical practice. Warner writes:

The ideal of mechanical objectivity that came to characterize representations of knowledge produced in the laboratory had a clinical counterpart in the epistemological and aesthetic preference for standardization, precision, and visual representation in the depiction of knowledge about disease elicited at the bedside.⁷⁶

Still had a number of responses to the symbol of the laboratory as the ultimate source of scientific knowledge for the physician; these will be discussed in the next section.

Generally, Still emphasized the idea of exactness in the training and diagnoses of the osteopath:

To be an osteopath you must study and know the exact construction of the human body, the exact location of every bone, nerve, fiber, muscle, and organ, the origin, the course and flow of all the fluids of the body, the relation of each to the other, the function each is to perform in perpetuating life and health. In addition you must have the skill and ability to enable you to detect the exact location of every obstruction to the regular movements of this grand machinery of life.⁷⁷

While the American School of Osteopathy purchased an X-ray machine in 1898, only the second x-ray machine west of the Mississippi, Still himself did not embrace technological advancements in diagnosis, emphasizing instead palpation as the most important diagnostic tool for an osteopath.⁷⁸

Still's response to germs as etiologic agents was articulated in terms of antecedent causes:

We will not dispute the fact that [microbes] have been and often are found in the blood, sputa, and faecal and other substances of the body. We will willingly admit that they are truths as reported as the results of discoveries

made by many of the most learned and painstaking scientists of years of the past and of the years of our own day and generation. That the student may the better comprehend by object, I will admit and agree that such organism as described are found in lung disease, disease of the stomach, bowels, liver, kidneys, or any organ of the system. I do not wish to disprove their existence, but wish to take such witnesses and try to prove that all such abnormal changes have a cause in suspension of arterial or venous blood, or lymph, the excretory systems, or by their nerve-supply being cut off at some important point of the physical work. . . . I want to impress upon you that all bad sputa, poor lymph, and defective blood are effects only, and a broken link is the cause, and bacteria are only the buzzards formed by the biogen that is in the dead blood itself.⁷⁹

Still was contributing to the “seed vs. soil” debate as physicians tried to absorb the significance of the identification of etiologic agents at the end of the nineteenth century. Owsei Temkin, in his essay “The Scientific Approach to Disease: Specific Entity and Individual Sickness,” presents two paradigms for disease which have been recapitulated throughout medical history. The first is the “ontologic,” which Temkin states indicates “the self-sufficiency of diseases running a regular course and with a natural history of their own.” Here, “the entrance of a certain living being is made responsible for the disease, and the expulsion or killing of this being is considered the essential part of therapy.”⁸⁰ Bacteriology marked the instantiation of this paradigm in the nineteenth century, although not in its purest form: “The disease was represented by the injured organism which the bacterium had poisoned. With the elimination of crude and one-sided modes of thinking, the bacteriologist had to visualize the relationship between parasite and host as an interaction, and it was this interaction which manifested itself as disease.”⁸¹

The second paradigm is the “physiologic.” Tracing this tradition back to Hippocrates, Temkin writes, “The nature of disease was to be found in man’s temperament, the structure of his parts, his physiological and his psychological

dynamism. Thus the nature of disease was grounded in the nature of man.”⁸² While the problem presented with this view was that the focus on the individual would lead to an identification of disease unique to each individual, in the nineteenth century this problem was addressed by the establishment of “standards of what was normal” that enabled the characterization of disease states as a “deviation from the norm.” In a “scientific approach to individual sickness,” the physician interprets findings about the patient’s condition by comparison to norms developed by the study of groups of healthy individuals.⁸³

Still’s understanding of disease as alteration in the normal structure of the body, with physiologic discord arising in a manner that is unique to the patient, places him within the “physiologic” tradition. He writes, “We say disease when we should say effect; for disease is the effect of a change in the parts of the physical body. Disease in an abnormal body is just as natural as is health when all parts are in place.”⁸⁴ This led Still to question the existence of diseases as they were described in the orthodox profession:

I have concluded after twenty-five years of close observation and experimenting that there is no such disease as fever, flux, diphtheria, typhus, typhoid, lung-fever, or any other fever classed under the common head of fever or rheumatism, sciatica, gout, colic, liver disease, nettle-rash, or croup, on to the end of the list, they do not exist as diseases. All these separate and combined are only effects.⁸⁵

According to Still, disease is more properly defined as a reaction of the body to altered structure as mediated through changes in blood supply, lymphatic drainage, and innervation.

CHAPTER THREE

SCIENCE AND THERAPEUTICS

Still asserted that osteopathic therapy was a fundamental break from orthodox therapy, and not solely because it was a rejection of drugs. Still maintained that osteopathic therapy was superior to orthodox therapies because it was more scientific in the sense that it was governed by the certainty and universality of the basic sciences. He contrasted these claims with a portrayal of orthodox therapy as uncertain and unscientific. In order to understand the significance of Still's claims, it is necessary to understand the therapeutic and epistemological debates that were occurring in the latter half of the nineteenth century in America within the orthodox profession.

Heroic therapies remained important to the orthodox profession into the early twentieth century. The use of bloodletting declined precipitously after 1850, yet William Osler, America's preeminent physician at the end of the nineteenth century, defended its use as late as 1893. Similarly, orthodox physicians' use of calomel and other purgatives declined in the latter half of the nineteenth century, but it was in the *materia medica* into the early years of the twentieth century.⁸⁶ While these older therapies were used less, the aggressive use of quinine, strychnine, antipyretics such as antipyrine, and opium replaced them.⁸⁷

In the first half of the nineteenth century, Paris medicine had advanced an overt skepticism toward existing therapies. Louis advocated the use of simple statistical methods to evaluate therapies, offering evidence, for example, that bloodletting had no effect on the outcome of pneumonia. In addition, physicians in the Paris school, in

trying to determine the natural history of disease, had discovered that many ailments resolved without any intervention by the doctor.⁸⁸ Under the influence of such teaching, American physicians returned from Paris intent on reforming what they saw as the excesses of American medicine by expounding skeptical empiricism.⁸⁹

Yet the empiricism of the Paris school that Americans brought back was significantly modified from that taught in Paris. American physicians admired French advances in the understanding of disease and diagnosis, but considered their approach inadequate when it came to therapy. Warner writes,

The discomfort American physicians felt with the passivity of French practice was grounded in the fear that it threatened the foundations of what it meant to be a physician. At the core of their anxiety was a distinction between knowledge and practice in defining the physician's role...Many American's feared that the scientific emphasis in French medicine, taken to mean a primary orientation toward understanding disease rather than intervening in it, was potentially subversive of practical medicine...many American physicians saw in the characteristic French union of scientific excellence with therapeutic impotence a threatening model for themselves.⁹⁰

Orthodox physicians reacted to Paris medicine's empiricism by warning that a pure interest in scientific inquiry could weaken the practitioner's ability to intercede at the bedside.⁹¹ Upon their return to America, they asserted that the important French contributions to diagnosis and disease theory could be separated from their inadequacies in the realm of therapeutics.⁹² Rather than the extreme skepticism towards heroic therapies of some of their teachers in Paris, they called for moderation in the use of these therapies.⁹³ In 1836, Jacob Bigelow defined in his influential essay "*On Self-Limited Diseases*" what would become the method: "cautious, palliative, and expectant." This "expectant" approach involved the moderate and judicious use of existing therapies, palliation of pain, prognostication and emphasis on prevention through sleep and diet.⁹⁴

The American proponents of the expectant approach based their call for the moderation of heroic therapies on a belief in the *vis medicatrix naturae*, the healing power of nature. Belief that the body had a self-healing ability has a long history in medicine.⁹⁵ The Parisian emphasis on careful clinical observation and attention to the natural history of disease had lent credence to the idea that the body had a capacity to heal itself, and Bigelow's 1836 essay served as a focus of controversy around this idea.⁹⁶ Leading American physicians associated with the Paris school saw it as a fundamental part of their therapeutic theory at least until the 1870s. Defining *vis medicatrix naturae* variously as an "inherent principle of vital force" or "the set of movements called into play for controlling and restoring the machine to its former equilibrium," these physicians maintained that the body had an innate capacity to heal, and it was the physician's therapeutic role to assist this healing power. With this understanding, they called for a moderation of the aggressive therapeutic measures of heroic medicine.⁹⁷

The expectant approach was controversial, although it did contribute to changes in the practice of medicine. For many physicians, the expectant approach represented the threat of a "therapeutic nihilism." While this was an exaggeration of the moderation called for by the expectant approach, this characterization served as a suggestive and persistent catchword for their challenge to orthodox therapies.⁹⁸ The idea of the healing power of nature, for example, was viewed as a stripping from physicians their primary therapeutic role and thus a fundamental threat to the orthodox profession.⁹⁹ Challenges to heroic therapies were especially threatening in the context of the serious challenges to these therapies from popular sectarian movements such as homeopathy. In such an environment, a program to introduce a new meaning of "science" in medicine that

stressed clinical observation, diagnosis and prognostication, while calling for moderation in active treatment, was highly problematic.¹⁰⁰

By the 1850s, the use of certain heroic therapies such as bloodletting and calomel dosing declined as a result of both sectarian challenges and the moderating influence of advocates of Paris medicine. Yet this did not mean that orthodox physicians had lessened their commitment to heroic therapy, which they saw as a cornerstone to their professional identity. This paradox can be explained by showing how orthodox physicians mediated the challenges to their therapies by allowing for both change and asserting continuity. The first was by holding that “in principle” bloodletting was a valid and, if applied appropriately, an effective therapy, even though its use in practice was diminishing. While there was a dramatic decrease in the use of depletive therapies such as bloodletting, there was a concomitant widespread defense of their utility in principle. Orthodox physicians thus negotiated space for therapeutic change while maintaining the stability of their professional identity in the defense of bloodletting and calomel as important therapies.¹⁰¹

Second, in the later half of the nineteenth century, orthodox physicians created a space for therapeutic change, while maintaining key aspects of practice, by stating that the nature of disease had changed. This change was from stimulating (or *sthenic*) diseases, which required depletive therapies such as bloodletting and calomel dosing, to depleting (or *asthenic*) diseases, which required stimulating therapies such as opium and alcohol.¹⁰² Such a change necessitated a change in the therapies employed, but the role of the orthodox physician remained the same. Warner writes:

Heroic stimulation, like heroic depletion, involved an aggressively active intervention in the course of disease. Both approaches used remedies that produced dramatic physiological changes . . . The shift was not accompanied

by any fundamental alteration in the underlying assumptions about pathology and treatment that comprised the therapeutic framework.¹⁰³

The aggressive application of therapies, the distinctive and enduring therapeutic characteristic around which orthodox medical identity was organized, endured largely unchanged.

The third way that orthodox physicians mediated challenges to their therapies was to assert the “specificity” of disease and therapy. As described in the preceding section, this theory held that individuating factors were so central to the response to both disease and therapy that firm generalizations about either could not be made. The principle of specificity was a central tenet of the orthodox therapeutic system of belief throughout most of the nineteenth century, and only began to weaken in the 1870s. In accordance with the principle of specificity, the conclusions of clinicians in Paris on the efficacy of bloodletting were understood to be true in Paris but were considered inapplicable in the United States.¹⁰⁴

Yet while the principle of specificity was a durable part of the orthodox profession’s understanding of disease and therapy, as the century progressed it became more problematic. In the first half of the century, physicians in America saw the principle of specificity as reinforcing the empiricism that had been introduced by the American proponents of the Paris school. Its emphasis on the physician’s attention to unique aspects of the patient was understood to rely on the direct experience of the physician.¹⁰⁵ Yet in the second half of the nineteenth century

concern would begin to arise that the specificity of therapeutic knowledge, contrasted with the universalism of some other kinds of medical knowledge, meant that there was a widening gap between the perceived progress and growing certainty in the universal ‘basic sciences’ and the stagnancy and inevitable uncertainty of therapeutics. . . . Some physicians would come to regard an emphasis on the principle of specificity as a humiliating affirmation

of professional limitations and as ample grounds for therapeutic pessimism.¹⁰⁶

Allegiance to the principle of specificity created a gap between the scientific knowledge in other fields (such as anatomy, physiology and pathology), which sought and established universally applicable principles, and orthodox therapeutics, which was based on the belief that such principles could not apply to therapy.

There were a number of responses in the last third of the nineteenth century to the “therapeutic pessimism” which arose from the possibility that heroic therapies were neither effective nor scientific. Some physicians asserted that some heroic therapies would be vindicated and continue to form the core of medical therapeutics; some believed that clinical empiricism would serve as the basis of an improved practice, based on the more conservative use of traditional therapies and a reliance of the healing power of nature; a few asserted that physicians should abandon their therapeutic role altogether, and that disease should be addressed through state-sponsored prevention based on hygiene. But the most vocal response to this pessimism came from American proponents of German physiological medicine, who asserted that experimental laboratory science could generate effective therapies and serve as the basis for a more scientific therapeutic system.¹⁰⁷

In the last third of the nineteenth century, German physiologic medicine would fundamentally alter the basis upon which American medical therapeutics were created and understood. The idea that the development of pharmacological agents in the laboratory, using animals for experimentation, could be universally applied in clinical settings offered the hope of orthodox therapies gaining the certainty and universality of the basic sciences.¹⁰⁸ The discovery of specific etiologic agents led to the drive to find

specific pharmacological agents to combat them, again by experimentation in the laboratory.¹⁰⁹ The shortcomings of therapeutic specificity could thus be overcome.

In addition, German experimental physiology's assertion that scientific knowledge about diagnosis and therapy should arise from the laboratory constituted an important epistemological change, from an empiricism that privileged the bedside as the ultimate source of scientific knowledge to a rationalism which looked to the laboratory:

Epistemologically...the expectation that experimental science would transform therapeutics was nothing short of revolutionary. Basing therapeutics on the results of reasoning from physiological experimentation in the laboratory, not exclusively on empirical observation in the clinic, meant that rationalism was to regain its sovereignty of therapeutics . . . By offering a pathway out of sterile clinical empiricism the New Rationalism would bring about a therapeutic renaissance.¹¹⁰

This constituted a fundamental shift in the role of physician, where specialized knowledge of the basic sciences became important to the application of therapies. German physiologic medicine offered a program of standardization in diagnosis and treatment that gave a new scientific basis, arising from the laboratory, for the authority of the medical profession.¹¹¹

While the burgeoning knowledge from the laboratory ushered in an era of therapeutic optimism in the last decades of the nineteenth century in the United States, there also was considerable frustration about the lack of effective therapies that the laboratory had actually produced. The identification of etiologic agents had led to important improvements in the realms of surgery and the "preventive and hygienic" facets of practice.¹¹² But the hunt for "specific" therapies, which could either alter specific physiological states or attack specific etiologic agents, had been largely unsuccessful except for a few remedies such as salicylic acid and chloryl hydrate.¹¹³

While the understanding of physiological functioning in health and disease as well as

the introduction of advanced diagnostic medical technology prepared the way for subsequent therapeutic successes, effective therapies in orthodox medicine were few. At the end of the nineteenth century, the laboratory became the greatest symbol of the orthodox profession's scientific authority, representing a therapeutic optimism, an alignment of the practitioner with scientific expertise and the application of the basic sciences at the bedside.¹¹⁴

Although there were significant signs of change in the last third of the nineteenth century, therapeutics resisted change more than other aspects of medicine. As described earlier, use of heroic remedies persisted until the end of the nineteenth century and beyond. The proponents of the Paris school had advanced empiricism as a way to make medicine more scientific as early as the 1830s in the United States, but it was not until the last decades of the century that this perspective began to be proclaimed by the country's most prestigious medical schools.¹¹⁵ As advocates of German physiologic medicine increasingly called for medical authority to be based upon knowledge gained from the laboratory, there were powerful counterclaims asserting the importance of clinical observation as the most important source of medical knowledge.¹¹⁶ It was in this complex context that Still framed osteopathy in the last decade of the nineteenth century and first decade of the twentieth.

The power of Still's formulation of disease as deriving from structural abnormality came from his ability to then assert that osteopathic therapy could be governed by reasoning at the bedside from knowledge of anatomy:

Anatomy well understood and wisely applied for the alleviation of diseases is what should be meant by Osteopathy. Disease means some abnormality of the anatomy and the Osteopath must find and correct that condition to the true line of Nature's wants or he is only worthy of the name masseur or is a superficial blank... Anatomy helps us to know and to judge when we are

normal or when we are abnormal in all of the parts of the body. Anatomy is not simply a knowledge of each part of the body but treats of their use, either in a general or a special way.¹¹⁷

Still's understanding of the seamless relationship between the study of anatomy and its application in the clinic is key to his assertion that osteopathic therapy is governed by the basic sciences. Osteopathic therapy is scientific, according to Still, because it was governed by knowledge of norms learned by study of anatomy through standard texts, dissection and study of the normal living human body through palpation. Basing his therapeutic system on anatomy, which had an established and central place in orthodox education¹¹⁸, was a powerful basis for Still's claim to a scientific therapeutic.

Still considered other medical science disciplines important to osteopathic education: physiology, histology, and chemistry were part of the early curriculum of the American School of Osteopathy.¹¹⁹ Yet such studies take a supportive role to the more fundamental study of anatomy.

...would you not use physiology in the healing art? my answer is yes – and that physiology is a part of anatomy as much so as osteology is of anatomy...of what use is histology?...histology only draws the mind's eye to observe the very finest work and machinery known by the study of anatomy...of what use is chemistry in this court of investigation? ...it is only a witness to prove that chemical work going on in the works of Nature known as the physiological part of anatomy – therefore it is useful...¹²⁰

Early osteopathy's adoption of all the subject of medical education was important in its attempts to gain legal recognition in states where the medical profession had raised the standards of their own education. By 1896, the American School of Osteopathy was teaching anatomy, physiology, surgery, obstetrics, histology, chemistry urinalysis, toxicology, pathology and symptomatology. With the exception of the *material medica*, this covered every subject in the standard medical school education.¹²¹

Osteopathic therapy, according to Still, entailed restoring structural normalcy to the body, which, since structure and function were intrinsically related, would reestablish physiological normalcy. An important aspect of the osteopath's management of the body was Still's assertion that the body had self-healing mechanisms which would restore normal physiological functioning once structural normality was established. He considered this innate healing capacity of the body the "foundation principle" of osteopathic therapy:

...nature constantly tends toward a normal condition both of structure and function, and the province of the physician is not in seeking a healing power from without, but in assisting the organism to maintain its structural integrity, which animated by the vital principle is sufficient of itself to generate and distribute every element necessary to normal functioning.¹²²

Still's integration of the healing power of nature into osteopathic theory meant that he did not conceive of the osteopath as a healer, but rather, in restoring structural normalcy, a facilitator of the body's healing capacity. Still wrote, "To make the sick well is not the duty of the operator, but to adjust a part or the whole of the system in order that the rivers of life may flow in and irrigate the fields."¹²³

Historical writings view Still as reacting to heroic therapies, yet his response to orthodox therapeutics at the end of the century had more nuances than these analyses have portrayed. For example, Still also assails the orthodox physician for their failure to produce "specific" remedies:

We ask [the M.D.] . . . if he knows of any specific that he can recommend under oath that will put to flight such diseases as cholera, smallpox, summer complaints, diseases of the lungs, brain, liver, kidneys and bowels? He will tell you he would not like to swear in favor of any specific's power as a remedy . . .¹²⁴

As mentioned earlier, bacteriology had succeeded in identifying specific etiologic agents in disease, but had failed in its promise to produce specific remedies to combat

them. Particularly important was Koch's declaration of tuberculin as a specific cure for tuberculosis in 1892, an announcement that catalyzed great criticism of the idea of specific therapy when tuberculin was determined to be ineffective. Partisans of empiricism used this fact to question the relevance of laboratory knowledge in therapeutics and to reaffirm the importance of generalized, symptomatic treatments.¹²⁵

Still's criticisms of orthodox therapies reveal the ways that Still believed osteopathy was a decided improvement upon these therapies. For example, Still attacks the principle of specificity. He writes that MDs say that

I wish I could believe that the medical doctor was scientific. I have tried to believe him sincere. I could do that, but when I would ask him to prove that medicine of any kind could demonstrate their scientific usefulness either in a general or specific manifestation when administered to diseased persons, right at this very important moment he says, his profession has to use great caution in selecting and administering drugs to suit the person more particularly than to match and successfully combat the disease which he is invited to conduct. . . . some drugs seem to be the very essence of relief to one person, and death to others suffering with the same class of disease . . .¹²⁶

Still criticizes orthodox medicine for its belief in the principle of specificity, which creates a lack of standardization in treatment and a hopeless uncertainty about the efficacy of therapies.

Still asserted that the osteopath or "mechanical doctor" had therapies based on norms that could be applied universally, in contrast to the orthodox physician, who has no therapeutic certainty:

[The osteopath] knows that our machine shops can make an ax, a saw, square, auger, compass, plane or any tool known or used by the mechanic; and he knows that the mechanic can get the result or results once or many times... When he wants two pieces of wood to connect either at side or end that his square will indicate the proper place to saw, and when the two ends are brought together if sawed by that rule they will fit, not withstanding one was squared and sawed in London the other in New York. . . .

This same rule of certainty is just as good with ten thousand instruments when used skillfully for the purpose or purposes for which they were designed.

All of the mechanical doctor's remedies do get the desired results, of which he is proud. The medical man's remedial agents are used and applied, all fail because the medical carpenter has no square by which he can work.¹²⁷

In this passage, Still makes clear that the reason that osteopathic therapy is more scientific is because it is universal, standard and certain. Still's understanding that a scientific therapy has the qualities of universality, standardization and certainty is similar to what proponents of German physiological medicine asserted as the more scientific foundation of their approach. Throughout his writing, Still interweaves the work of the osteopath with the work of mechanics and craftsmen. As will be seen, these comparisons are key to Still's attempt to develop legitimacy for his new profession and indicate that, rather than the direct influence of physiologic medicine in adopting these aspects as important to a scientific therapy, Still was influenced by the expectations of standardization and the use of norms in other professions.

One of the great surprises in Still's writings is the virtual absence of the description of technique. It had been the great quandary of osteopaths that there is no good indication of how Still actually practiced, beyond the fact that he focused on the musculoskeletal system and limited his treatments to manual manipulation. Still's omission of normative statements about how to actually treat disease was deliberate. He writes,

My object is to make the osteopath a philosopher, and place him on the rock of reason. Then I will not have the worry of writing details of how to treat any organ of the human body, because he is qualified to the degree of knowing what has produced variations of all kinds in form and motion. I want to establish in his mind the compass and searchlight by which to travel from the effect to the cause of all abnormality of the body.¹²⁸

Still sought to introduce the principles of the interrelationship between structure and function and the structural origin of disease, but he sought to avoid a “rote” approach to treatment. Instead, he stressed that the osteopath must develop a specific treatment based a knowledge of anatomy and physiology:

I do not instruct the student to punch or pull a certain bone, nerve or muscle for a certain disease, but by a knowledge of the normal and abnormal, I hope to give a specific knowledge for all disease.¹²⁹

While criticizing the orthodox profession for its lack of specific treatments, Still asserted that osteopathy could specifically address the origin of disease by treating the structural abnormalities at the origin of disease.

The central role that palpation played in osteopathy makes it highly suggestive of an empiricist epistemology. Yet Still portrays osteopathy as decidedly rationalist. It was the reasoning from anatomical knowledge that, according to Still, marked a key therapeutic activity of the osteopath:

Your osteopathic knowledge has surely taught you that, with an intimate acquaintance with the nerve- and blood-supply you can arrive at a knowledge of the hidden cause of disease, and conduct your treatment to a successful termination. This is not by your knowledge of chemistry, but by the knowledge of the anatomy of man, and of what is normal and what abnormal, what is effect and what is the cause...¹³⁰

Still envisioned the osteopath using symptoms and other signs of disease as important information in the search for structural abnormalities that were the antecedent cause for disease. Still sought the same “uplift” of the clinical sciences from anatomy that proponents of German experimental physiology did for a rationalist therapeutic governed by physiology. While Still was not influenced by German physiologic medicine, he shared with its proponents similar influences: a frustration with the inefficacy and the problematic scientific grounding of existing therapies. In addition,

both Still and orthodox physicians were working in the context of larger social forces which were creating a new role for “expert knowledge” in the professions at the turn of the century.

Still articulated the features of his new profession in the context of changes in the expectations of the American public for the basis of professional legitimacy. Starting in the 1870s, a general change in attitude towards the professions occurred in the United States as command of specialized knowledge incomprehensible to the public became the basis for a new legitimacy for the professions. Just as empiricism’s sensual grounding in experience had appealed to egalitarian values earlier in the century, the rationalism of German experimental physiology formed the basis of what Paul Starr has called a “renewal of legitimate complexity” in the medical profession during the late nineteenth century.¹³¹ Of course, orthodox medicine turned to experimental physiology to not only to establish a cultural legitimacy but also in the hope for the development of effective therapies. But in accounting for the embrace by physicians of the laboratory as the source of knowledge for practice, despite the dearth of effective remedies produced in this period, historians have asserted that laboratory knowledge, as the source of the specialized knowledge, served as the nexus of professional legitimacy in the medical profession.¹³²

Unlike orthodox physicians, who were *re*-defining their profession in the last decades of the nineteenth century, Still was defining a new profession. Still exploited the fact that while other professions, from forestry to engineering, were being reformulated in terms of an application of scientific principles, the role of science in orthodox therapeutics was still in dispute.¹³³ He expressed his frustration with the current state of the “healing arts” by comparing its slow progress in relation to other

professions; in *Philosophy and Mechanical Principles of Osteopathy*, in an introductory section entitled “Demand for Progress” Still writes:

The twentieth century demands that advance in healing arts should be one of the leading objects of the day and generation, because of the truth that the advancement in that profession has not been in line with other professions.¹³⁴

His ability to explain an osteopathic concept of disease and the basis for osteopathic therapy as an applied science were important aspects of his attempt to establish the authority of his new profession. Furthermore, while Still was able to articulate his theory of disease in simple terms, he also proclaimed the specialized knowledge upon which the profession’s legitimacy was based. Still’s emphasis on rationalist epistemology, that is, reasoning from anatomical knowledge in determining osteopathic therapy, was a key component in establishing the profession as applying specialized scientific knowledge. Osteopathy’s particular study of body structure and its relation to function established a space for the osteopathic profession that was different from that of the orthodox medical profession.

While he may not have been influenced directly by the ideas of laboratory medicine, Still did try to appropriate its primary symbol of professional power: the laboratory. As Warner has written, “The laboratory provided the material and cognitive basis for an elitist epistemology and a regrounding of medicine on a decidedly privileged body of knowledge accessible to only a small proportion of Americans.” As such, it became the central source of orthodox authority in an age where such professional authority arose from specialized knowledge.¹³⁵ Still sought to recast the laboratory as unnecessary because the body itself was its own best source of the pharmacological agents developed in the laboratory:

Has not your acquaintance with the human body opened your mind's eye to observe that in the laboratory of the human body the most wonderful chemical results are being accomplished every day, minute, and hour of your life?¹³⁶

Still does not attack laboratory medicine directly; rather he insists that the only laboratory necessary is that which is contained in the human body itself:

If in the human body you can find the most wonderful chemical laboratory mind can conceive, why not give more of your time to that subject, in order that you may obtain a better understanding of its workings? Can you afford to treat your patients without such qualification?¹³⁷

While Still included physiology in the osteopathic curriculum, he sought to undermine its importance as a source of knowledge essential to therapy. In an updating of the populist Thomsonian argument that each individual can understand his or her own health and be his or her own doctor, Still places the most potent symbol of orthodox authority in the body of the patient. The laboratory used for drug development is unnecessary because the human body is its own "laboratory" for this purpose. While this is an attempt to radically decentralize orthodox authority based on laboratory knowledge to the bodies of patients, it maintains a key role for the osteopath. With specialized knowledge about anatomical structure and its relation to function, the osteopath is essential for interpreting and maintaining the natural laboratory of the body.

The preceding analysis has sought to demonstrate the way that Still articulated a case for the osteopathy as a scientific therapeutic system and how that was important in establishing the authority of the osteopathic profession. However, this was not the only way that Still sought to establish the legitimacy of the profession in American society. In the closing years of the nineteenth century, the orthodox profession increasingly turned to the laboratory as the most potent symbol of their scientific authority. The next

section analyzes the way that Still turned to the symbol of the machine to establish osteopathy's authority.

CHAPTER FOUR

ESTABLISHING PROFESSIONAL AUTHORITY

Still's attempt to establish the authority of the osteopathic profession extends beyond those aspects of osteopathic theory and practice outlined so far. Besides these obvious attempts to establish a "legitimate complexity" for the profession, Still's establishment of a professional authority for osteopathy is best understood by examining his rhetorical use of the metaphor of the body as machine and its relation to the history of technology at the end of the nineteenth century. Historian John Kasson explores America's complicated relationship to technology in his *Civilizing the Machine: Technology and Republican Values in America, 1776-1900*.¹³⁸ Technology played a central role in the nation's development in the nineteenth century. It connected a vast and expanding nation through new modes of transport. It created wealth out of wilderness. And technological development and nation building were united in the development of a national industry in response to European dominance of domestic markets. These concerns all placed technology and the machine at the center of national culture in America.

By the late nineteenth century, America's relationship to technology had grown both more essential and more complex. Vertiginous growth in industry, transport, communications and the economy transformed the United States and yet also threatened its stability:

Technology had been embraced as a principle of order and preserver of union, the harbinger of peace and guardian of prosperity. But the overriding paradox of the age was the coexistence of technological progress and social chaos. The industrial economy, despite its extraordinary growth, was hardly a smoothly running engine but an erratic and dangerous machine, capable of great bursts of activity, then inexplicable slumps.¹³⁹

The last three decades of the nineteenth century were marred by economic upheaval and massive nation-wide railroad strikes in 1873, 1877 and 1894. This inspired a longing for America's pastoral past and an increasing sense that mechanization and technology were disruptive and dehumanizing forces. American writers were decrying the effects of technology on the American life and landscape. Leo Marx, in his book *The Machine and the Garden: Technology and the Pastoral Ideal in America*, lists the moments in literature from the latter half of the nineteenth century where the machine interrupts the pastoral repose of the "garden":

in *Walden* where Thoreau is sitting rapt in a reverie and then, penetrating his woods like the scream of a hawk, the whistle of the locomotive is heard; or the eerie passage in *Moby-Dick* where Ishmael is exploring the innermost recesses of a beached whale and suddenly the image shifts and the leviathan's skeleton is a New England textile mill; or the dramatic moment in *Huckleberry Finn* when Huck and Jim are floating along peacefully and a monstrous steamboat suddenly bulges out of the night and smashes straight through their raft. More often than not in these episodes, the machine is made to appear with startling suddenness...¹⁴⁰

Such portrayals can be contrasted with an early passage from Still's *Autobiography* in which he recounts his family's journey in 1836 to frontier Missouri after his father, a Methodist preacher, was transferred from Tennessee. He writes of his family's approach to the banks of the Ohio River:

Here we began to find some deep mud for a few miles until we reached the river. But long before we reached it, we heard the whistle of a steamboat. We all wanted to see the mouth that could pucker and whistle so squealingly loud. "Oh, my! We could hear it roar just as plain as you could hear a rooster crow if he were on top your head." Just think of that! Meeting a man in the road, father asked how far it was to the river, and he said it was six or seven miles. We whipped up all the teams and pushed on, for we were determined to see that boat, -- see it pucker its mouth and whistle. Our ideas of steam were very crude, and we had much company then of the kind who knew but little of steam engines or any other kind of machinery. We drove up to the banks of the river, and there it was, big as life, full of people, cattle, horses, sheep, merchandise, and movers, but they cut no figure with us. The boat

was the sight; we knew it, and knew all that could be known. We had seen a real steamboat, and it was a whopper, too...¹⁴¹

In this scene, Still's family is not only rushing westward to the opportunity of the American frontier, they are also pressing on toward the call of technological advancement. That their hazardous and slow progress through the mud in horse-drawn wagons is disrupted by the shriek of the steamboat's whistle is not an ominous but rather optimistic sign, offering improved transport and, more generally, the promise of the technological development of the West.

Still's valorization of technology might appear out of place given his primary audience. Still was a rural practitioner and founded his first school in the rural town of Kirksville, Missouri. Most historians focus on Still's appeal to the rural Midwestern communities within which he practiced. In trying to explain the success of osteopathy in term of its appeal to its clientele, Gevitz writes that Still exploited "populist sympathies by adopting the rhetoric of health reform." In addition, Still's use of techniques that resembled bonesetting made his therapies familiar to patients who had likely encountered the practice previously. Finally, Still had a "mechanical theory of the body in health and disease which could be readily grasped in terms of the effects of aligned or mal-aligned parts on the smooth operation of farm machinery. Thus, Still's practice dovetailed nicely with the cultural beliefs, understandings and expectations of that part of the American population to whom he made his strongest appeal."¹⁴²

Albrecht and Levy focus on the apparent appeal Still's work had for a Midwestern rural population. A number of historians have commented on Still's relationship to his patients in these terms. Comparing osteopathy to chiropractic, Albrecht and Levy state that osteopathy had a "general appeal to Midwesterners" in that it was "built on a

common sense, single cause theory of disease that had a particular congruence to the pragmatic value system found within farm communities.”¹⁴³ They also mention, however, that “the difference between the two systems lay within the growing emphasis that Still and his disciples placed upon the incorporation of modern science and scientific method into osteopathic training and practice. This movement towards science resulted in the loss of some clients to chiropractors, but did allow osteopaths to attract additional patients who valued a more scientifically based medical ideology.”¹⁴⁴

These appeals to science and to the rural, agricultural setting in which Still founded osteopathy are not necessarily contradictory. The latter half of the nineteenth century was one of astounding technological change that affected all parts of the country. Besides the important changes in transportation that connected rural America to the rest of the country, farming was being transformed by scientific and technologic developments. Farming, both in terms of acreage farmed and the population working on it, exploded in the second half of the nineteenth century: the amount of land farmed in America doubled between 1850 and 1890 and the population working on farms also grew substantially.¹⁴⁵ In the same period, agricultural productivity saw remarkable growth, mostly through labor-saving devices such as the self-binding harvester.¹⁴⁶ The work of the German chemist Justus Liebig on soil exhaustion, disseminated through writings such as his *Organic Chemistry in Its Applications to Agriculture and Physiology* translated and released in America in 1841, was widely known in agricultural communities by the late 1840s.¹⁴⁷ In the period from 1890-1910, the link between science, technology and agriculture would gain an important new ally in the US government with the establishment of a number of broadly popular initiatives to improve farm productivity through government programs. This included the passing of

the Hatch Bill in 1886 which gave government funding to “experiment stations,” where scientists from fields such as chemistry, botany, entomology and genetics were to improve farming through applications of basic science.¹⁴⁸

Of course, the role of science and technology in agriculture was not a simple one. Improved efficiency meant displacement of farm laborers; the resulting rifts between farmers and their hired workers led to strikes and violence. In addition, farmers themselves often lost the benefits of scientific and technological improvements to the monopolies which owned the “mediating technology,” such as railroads, refrigeration facilities and storage silos.¹⁴⁹ And, while there were important technological developments for improving efficiency in farm labor in the latter half of the nineteenth century, there was also what Purcell calls “a lingering tendency to rely on hand tools down to the twentieth century.” This was to a great degree due to the lack of readily available power sources for the mechanization of farm work.¹⁵⁰ While these problems point to the complex relationship that agricultural communities had towards science and technology in the late nineteenth century, they also underscore the fact that science and technology pervaded and transformed life in rural America, as it did in the urban parts of the country.

In his *Autobiography*, Still emphasized the importance he placed on technological improvements in farming. He writes, “As Osteopathy is a science built upon the principle that man is a machine, I will have to draw your attention to the fact that I began the study of machinery in 1855 and continued it, on to 1870.” He then supplies an account of his invention of an improvement to the reaper that bunched together mowed grain rather than letting it fall to be then gathered and bound.¹⁵¹ Still also refers to his

development an improved churn in establishing his background as a mechanical thinker.

Of this invention, he writes,

This was the first time that I had cause to rejoice that I made one of my worst enemies, (the churn), the footstool of my amusement. I spent some time introducing my new invention, until the summer of 1874. This year I began an extended study of the drive-wheels, pinions, cups, arms, and shafts of human life, with their forces, supplies, framework, attachments by ligaments, muscles, their origin, and insertion; nerves, their origin and supply; blood supply from and to the heart; how and where the motor-nerves received their power and motion; how the sensory nerves acted in their functions; voluntary and involuntary nerves in performing their duties, the source of their supply, and the work done in health. In the obstructing parts, in the places, through which they passed to perform their part in the economy of life; all this study awoke a new interest within me. I believed that something abnormal could be found in some of the nerve divisions which would tolerate a temporary or permanent suspension of the blood either in arteries or veins, and cause disease.¹⁵²

Still directly connects this revelation that the body could be understood as a machine to the founding of the osteopathic profession. As a result of this insight in 1874, Still writes that he “flung to the breeze the banner of Osteopathy.”¹⁵³

Still’s use of the metaphor of the body as machine so permeates his writings that it seems to lose its metaphorical aspect and become literal. In *Philosophy of Osteopathy* he writes:

To repair signifies to readjust from the abnormal condition which the machinist finds it, to the condition of the normal engines which stand in the shop of repairs. His inspection would commence by first lining up the wheels with straight journals; then he would naturally be conducted to the boiler, steam chest, shafts, and every part that belongs to a completed engine. To know that they are straight and in place as shown upon the plan and described by the specification, he has done all that is required of a master mechanic. Then it goes into the hands of the engineer, who waters, fires and conducts this artificial being on its journey. You as Osteopathic machinists can go no farther than to adjust the abnormal condition in which you find the afflicted. Nature will do the rest.¹⁵⁴

More than scientist, Still casts the osteopath as mechanic charged with maintaining the body/machine. By using the metaphor of the machine for the body, with anatomy as its

blueprint, Still made the body a subject for the indigenous mechanical talents of the American osteopath with the promise of freeing the individual and nation from disease. Indeed, in the early decades of osteopathy, the term “Operator” was a synonym for “osteopath;” it was early in the twentieth century that the American Osteopathic Association, trying to “medicalize” the profession’s image, called for the use of the terms “doctor” or “physician” instead.¹⁵⁵

In March 1902, Still puts the osteopath in the tradition of inventors and engineers:

Some minds have been able to harness the furious forces of electricity and turn them to man’s benefit. Other minds have grown wealthy in the knowledge of the ‘hows’ to plough the oceans...other minds have been turned upon the successful navigation of the dry land with ever increasing speed...With just as much reason for demand for great engineers to solve problems of ocean and land travel, there has been a demand for an engineer of a different kind for many thousands of years, one to plough through the black and bitter waters of disease. The living man and his form constitute the compass that points to and successfully delivers man from the sorrowful elements of sickness to the joyful land of health and repose. Osteopathy is the name given to the engineering science that takes charge of the vessel of life, conducts and repairs the superstructure from birth to a reasonable day of longevity.¹⁵⁶

Still’s emphasis on the superstructure connects osteopathy to other professions charged with the management of the infrastructure of the nation. It was during this period that the nation’s infrastructure, from the management of communication and transportation networks to city sewers, was placed in the hands of a technical elite.¹⁵⁷ It is critical to recognize that when Still proposed that the osteopath would be the engineer to manage the body-machine, he was placing osteopathy within the larger technological development of the country. By linking the body to the engine, and the osteopath to the mechanic, Still was invoking the complex relationship that America had with technology and harnessing the metaphorical weight of the machine in the late nineteenth and early twentieth century.

The mixture of concepts that Still uses - the osteopath as the master mechanic, the body as machine, structural order facilitating physiological function and thus health - does more than configure the osteopath as the keeper of order in the body/machine. It creates a legitimate place for the osteopath in a society that was entrusting the running of the mechanical infrastructure of the country to a technological elite. Still writes:

The Osteopath reasons if he reasons at all, that order and health are inseparable, and that when order in all parts is found, disease cannot prevail, and if order is complete and disease should be found, there is no use for order. And if order and health are universally one in union, then the doctor cannot usefully, physiologically, or philosophically be guided by any scale of reason, otherwise.¹⁵⁸

The authority of the osteopathic profession came not only from the specialized knowledge and technical skill of the osteopath, but from the implication that the osteopath could help to keep the nation running efficiently. It is in the connection between Still's formulation of the osteopath as mechanic and the nation's technical elite that the symbolic power of Still's model of disease is revealed. Just as strikes and economic upset obstruct the efficient transportation or commercial activity of the nation, so obstruction in the body prevents the harmonious operation of the complex interrelated system of the body. In this way, Still tried to establish the legitimacy of the osteopathic profession in terms of the health of the nation at the same time bringing to osteopathy the gravity of these nationalistic concerns.

CONCLUSION

In this paper, I have examined how Still framed osteopathy as a scientific endeavor and how his definition of science compared to the various definitions of science present in medicine in the United States at the end of the nineteenth century. A greater sense of the meaning of Still's vision arises from locating him in the complexity of the controversies over disease theory, therapeutics and epistemology of the time, rather than limiting his context to the widespread dissatisfaction over heroic therapies. In addition, the broader context of the "rise of professional mystery" and the history of the professions of the time serves as an important point of reference for the way Still portrays osteopathy. In his use of the metaphor of the body as machine and the osteopath as operator, Still communicates a role for the profession that situates it clearly in the broader history of professions. Such a perspective clarifies the profession's early identity and provides a comparative example for legitimization through science in the health professions at the end of the nineteenth century.

Still's was not the only voice in the early formulation of the profession's identity, definition of disease, or conception of therapy. As soon as he began teaching osteopathy, the views of others began to influence and sometimes compete with his. For example, Gevitz has written about the early controversies over the inclusion of drug therapies into the osteopathic curriculum. While Still vehemently opposed any use of drugs with osteopathy, from the beginning of the profession there were osteopaths who argued that the use of drugs was appropriate and even osteopathic.¹⁵⁹

By the early 1900s, osteopaths began to identify themselves as either "lesion Osteopaths," who did not use drugs and claimed loyalty to Still's vision, or "broad

Osteopaths” who believed that osteopaths should use drugs as well as osteopathic therapy. Interestingly, the lesion osteopaths strove to characterize the “osteopathic lesion” through basic science research that was clearly influenced by German physiologic medicine. Using an animal model, these osteopathic researchers introduced osteopathic lesions and then examined both tissue changes at the sight of the lesion and their distant effects on visceral organs and physiology.¹⁶⁰ The “lesionist” osteopaths and the early osteopathic basic science researchers saw themselves as loyal to Still, yet Still never wrote about “lesions” as a specific entity. The attempt to isolate a “lesion” seems an ontological (in the sense defined by Temkin) interpretation of Still’s less disease-focused approach to osteopathy: by defining a specific anatomico-physiological unit which could be identified and removed by the osteopath they could assert not only that their diagnosis was anatomically specific, as Still had done, but had characteristics identifiable by tissue pathology. Whether the osteopathic view of disease and therapy had begun a transformation is not clear, but this is the kind of historical question that can arise out of a close examination of the development of osteopathy grounded in a careful attention to osteopathic perspectives disease and therapy.

In the remarkably few histories written on the profession, osteopathic perspectives on disease, therapy, epistemology and professional identity are examined only in the most general terms. Meyer and Price claim that from 1892 to the 1950s, the profession was focused on its distinctive therapeutic system, osteopathic manipulation, and that most osteopaths were in accord with that mission. From the 1950s to the 1970s, they state that most osteopathic physicians were physicians first, but maintained an interest in osteopathic manipulation. From the 1970s to the present, they assert, osteopathic physicians are increasingly entering specialties and subspecialties and are the product of

training that has little or no osteopathic manipulative training.¹⁶¹ The specific transformations to osteopathic theory and therapy, understood from the perspectives of their development as independent theories and from the challenges to their legitimacy by DOs and MDs, is a history which has yet to be written.

There are currently over 45,000 practicing Doctors of Osteopathy (DOs) in the United States; they are licensed for the unlimited practice of medicine and surgery in all fifty states, Washington, D.C. and the Armed Forces. They represent 5% of all practicing physicians and 9% of all primary care physicians.¹⁶² Yet according to many writers, the profession is in a state of crises because there is no clear sense of its distinctiveness from the orthodox profession.¹⁶³ A history of the profession that looks carefully at its development could provide a more sophisticated analysis of the transformations of and challenges to uniquely osteopathic perspectives over time. Gevitz emphasizes the importance of osteopathic concepts in the profession's attempts to clarify its distinctiveness:

The most powerful ideologic argument as to why there should be a 'parallel profession' of medicine is based on the presumption that the smaller profession has a distinct philosophy underlying its existence which is expressed in actual differences in diagnosis and treatment of patients.¹⁶⁴

Careful historical analyses of the development of these concepts can facilitate the profession's attempts to clarify its distinctiveness. James Jealous expresses the importance of maintaining osteopathic concepts in more general terms:

It is completely irresponsible to the suffering individual in this world to reduce their options for healing; osteopathy is an alternative method of practicing medicine. A MD who saw the necessity of a safer, more effective, more wholistic profession founded it. Osteopathy was a gift to humanity. It was help. We have allowed ourselves to fail in our responsibilities to our fellow man.¹⁶⁵

Careful historical study of a distinctive osteopathic conception of disease and therapy, both historically and in its present practice, can help deepen the diversity of healthcare in the United States.

NOTES

- ¹ Andrew Taylor Still, *The Autobiography of AT Still* (1898; Indianapolis: American Academy of Osteopathy, 1996), 249.
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- ³ Gary L. Albrecht and Judith Levy, "The Professionalization of Osteopathy: Adaptation in the Medical Marketplace," *Research in the Sociology of Health Care* 2 (1982): 172.
- ⁴ Still, *Autobiography*, 142.
- ⁵ Albrecht, "Professionalization of Osteopathy," 161-206.
- ⁶ Katherine Miller, "The Evolution of Professional Identity: The Case of Osteopathic Medicine," *Social Science and Medicine* 47, no. 11 (1998): 1739-48.
- ⁷ Still, *Autobiography*, 7.
- ⁸ Gevitz, *The D.O.'s*, 23-4.
- ⁹ Gevitz, *The D.O.'s*, 19-34.
- ¹⁰ Still, *Autobiography*, 211-20.
- ¹¹ John Harley Warner, "Science in Medicine," *OSIRIS* Second Series, no. 1 (1985): 41.
- ¹² Still, *Autobiography*, 87.
- ¹³ Still, *Autobiography*, 87-88.
- ¹⁴ W.F. Bynum, *Science and the Practice of Medicine in the Nineteenth Century* (New York: Cambridge University Press, 1994), 18.
- ¹⁵ Norman Gevitz, "Andrew Taylor Still and the Social Origins of Osteopathy," in *Studies in the History of Alternative Medicine*, ed. Roger Cooter (New York: St. Martin's Press, 1988), 155.
- ¹⁶ William G. Rothstein, *American Medical Schools and the Practice of Medicine: A History* (New York: Oxford University Press, 1987), 70.
- ¹⁷ John Harley Warner, *The Therapeutic Perspective: Medical Practice, Knowledge and Identity in America, 1820-1885* (Princeton, NJ: Princeton University Press, 1997), x-xi.
- ¹⁸ John Harley Warner, "The Fall and Rise of Professional Mystery: Epistemology, Authority and the Emergence of Laboratory Medicine in Nineteenth-Century America," in *Laboratory Revolution in Medicine*, ed. Andrew and Perry Williams Cunningham (Cambridge: Cambridge University Press, 1992), 112.
- ¹⁹ Warner, "The Fall and Rise of Professional Mystery," 116.
- ²⁰ Warner, "The Fall and Rise of Professional Mystery," 114-5.
- ²¹ Gevitz, *The D.O.'s*, 9.
- ²² Warner, *The Therapeutic Perspective*, 98.
- ²³ Warner, *The Therapeutic Perspective*, x.
- ²⁴ Hans A. Baer, "Divergence and Convergence in Two Systems of Manual Medicine: Osteopathy and Chiropractic in the United States," *Medical Anthropology Quarterly* 1 (1987): 178.
- ²⁵ Gevitz, "Andrew Taylor Still and the Social Origins of Osteopathy," 167.
- ²⁶ Carol Trowbridge, *Andrew Taylor Still: 1828-1917* (Kirksville, MO: The Thomas Jefferson University Press, 1991), 122.
- ²⁷ Gevitz, "Andrew Taylor Still and the Social Origins of Osteopathy," 159-60. Trowbridge, *Andrew Taylor Still*, 92.
- ²⁸ Gevitz, "Andrew Taylor Still and the Social Origins of Osteopathy," 159.
- ²⁹ Andrew Taylor Still, "August, 1899: Dr. A.T. Still's Department," in *Early Osteopathy in the Words of A.T. Still*, ed. RV Schnucker (Kirksville, MO: The Thomas Jefferson University Press, 1991), 209.
- ³⁰ Gevitz, *The D.O.'s*, 11.
- ³¹ Gevitz, "Andrew Taylor Still and the Social Origins of Osteopathy," 163.
- ³² Gevitz, *The D.O.'s*, 12-14. Trowbridge, *Andrew Taylor Still*, 103-5, 111-113.
- ³³ Trowbridge, *Andrew Taylor Still*, 117.
- ³⁴ Trowbridge, *Andrew Taylor Still*, 136.
- ³⁵ Gevitz, *The D.O.'s*, 17.
- ³⁶ Roger Cooter, "Bones of Contention? Orthodox Medicine and the Mystery of the Bone-Setter's Craft," in *Medical Fringe and Medical Orthodoxy: 1750-1850*, ed. W.F. Bynum and Roy Porter (London: Croom Helm, 1987), 158.

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- ³⁹ Joy, "The Natural Bonesetters," 433.
- ⁴⁰ Joy, "The Natural Bonesetters," 428.
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- ⁴² Gevitz, "Andrew Taylor Still and the Social Origins of Osteopathy," 158-9.
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- ⁴⁸ Warner, *The Therapeutic Perspective*, 40-1.
- ⁴⁹ Gevitz, *The D.O. 's*, 32. Albrecht, "Professionalization of Osteopathy," 170-173.
- ⁵⁰ Andrew Taylor Still, *Philosophy of Osteopathy* (1899; Indianapolis: American Academy of Osteopathy, 1995), 53-67.
- ⁵¹ Still, *Philosophy of Osteopathy*, 23.
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